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## III. NOTES ON COLONIES AND COLONIAL GOVERNMENT

**Rice Culture in the Philippines.**—A recent bulletin of the Philippine Bureau of Agriculture received by the Bureau of Insular Affairs, War Department, publishes in an interesting form the results of its investigation of the methods of growing this important staple.

Notwithstanding the fact that rice is one of the principal agricultural products of the archipelago, its consumption considerably exceeds its production.

Statistical information relative to importations during the Spanish régime is meagre and entirely unsatisfactory, though fragmentary details available would seem to indicate that under normal conditions and for a period at least there were considerable exportations of this commodity to China. It is known that the acreage under cultivation has been decreased to one-fourth as an incident of the war, cholera, rinderpest and surra.

During the present year the decrease in production has been so great that in order to avoid famine the Philippine government has imported large quantities of rice and is selling it to the people at cost.

The method of cultivation of rice in the Philippines is in many respects similar to that practiced in China, Japan, India and other Oriental countries. The process of preparing the seed beds, transplanting, puddling the soil, and harvesting the crop all conform to the practice of other communities where labor is cheap. The probable economic prohibition against the introduction of advanced methods and the consequent failure of occupation of a greater portion of a crowded population dependent upon the soil, which will apply to China and other competitors, loses its force of argument in the Philippines with a population of only about 8,000,000 and an area equal in extent to the whole of New England and the State of New York. It is even fast becoming a necessity, as wages increase under American standards, to introduce improved methods in order to increase productive capacity necessary for competition with foreign rice. As an illustration it is stated that while the Filipino laborer now receives only \$20 gold per annum and board and a Louisiana laborer \$200 gold and board, yet the former, impeded in part at least by crude methods, while receiving one-tenth the wage of the latter, produces but one-hundredth of the rice.

There are extensive areas distributed throughout the archipelago whose soils are admirably adapted to the growing of rice. In fact, any fairly fertile soil that has sufficient clay to retain moisture is suited to its needs. Low, level lands are for many reasons preferable.

Although rice is a water plant good drainage is essential to its cultivation. In the Philippines but little attention is paid to irrigation and the rains are depended upon to inundate the land. Were advantage taken of the large number of streams which traverse the country dependence need no longer be placed on the rainy season, and there might be two resultant crops instead of one as at present. The present ditching and leveling methods are primitive

and need improvement, and they should be so arranged as to prevent stagnation of the water and the consequent growing of grasses which thrive under such conditions.

Within ten or twelve days before the grain is ripe the water is drained off for the harvesting. The ripened crop is cut with a sickle or cradle, but under many conditions to greater advantage with the modern reaper and binder.

The machines used in threshing rice are practically the same as those used in the wheat fields of the western United States.

The installation of a 500-acre rice farm with suitable modern equipment, including thresher and traction engine, is estimated at \$5,000, and the gross receipts for a single crop at from \$15,000 to \$20,000 gold.

The Bureau of Agriculture predicts an increase in the production of rice and a consequent saving of money now paid out for importation.

**The Reports of Provincial Governors in the Philippines**, recently issued by the Bureau of Insular Affairs, give an interesting picture of the local conditions in the archipelago; a few of these are given in condensed form.

William F. Peck, governor of the Province of Benguet, reports in part as follows:

"I am pleased to be able to state, that with the natives, my administration has been marked by a hearty and continuous co-operation on the part of the officials, and manifest contentment on the part of the people. In many respects conditions have arisen within the past year that would try the constancy of the people more than ordinarily occurs in a decade.

"I reported a year ago that the best roads were but trails, and most of the trails were impassable paths for mounted travelers. The several pueblos constituting the province have repaired old roads and constructed new ones, involving much labor, until to-day I can ride over at least two hundred miles of road with perfect safety and comparative ease. This work was done without cost to the government, the project of which at first astounded the native officials, but being done, brought with it a feeling of content among the laborers, which amounts to almost a sentiment of pride, if I may apply the term to so humble a people as the Igorrotes of Benguet. In addition to this labor, there were continually employed on the Benguet wagon road from 250 to 500 Igorrotes from this province, who received from forty cents a day up in insular currency.

"Just at this time the cholera attacked our borders, swept through the road camp and from there spread with astonishing rapidity throughout the province. The Igorrotes having no knowledge of medicine, have always resorted in time of sickness to gathering about the afflicted and holding a feast, sacrificing birds or animals and believing that in the blood thereof there were curative properties. They took no sanitary precautions and these meetings resulted in spreading the pestilence. It was, however, a custom, I might say a religious custom, which they had held sacred for ages and which Spanish rule had never suspended.

"I deemed it most essential for the welfare of the province to stop all such gatherings, to stop the people from traveling from one pueblo to another,

and even from one house to another, and called the presidentes and the cabezas of the different pueblos, and the chiefs and head-men of the province to La Trinidad, explained the cause of the spread of the disease, the sanitary precautions to be taken, the quarantine to be effected and promised in time, when the danger was passed, to allow them to resume the customs of the Igorrotes pertaining to disease and death, which for the time being were suspended.

"The promptness and thoroughness with which the natives complied with this order was a most satisfactory proof of their confidence and regard for the American government. Then ensued a long and tedious fight against the cholera, and when the smallpox broke out, leaving forty-three dead in one barrio, it seemed as though the fates were opposing the province and pestilence was victor.

"However, in traveling about the province I find new houses, new rice fields, new coffee plantations, larger gardens and clean yards, all of which indicate that many consider themselves safe in property and life and content to begin again accumulating property to repay the losses of the last seven years. Again it is a gratifying novelty to the Igorrote that the white man, especially if it be an official, pays for what he gets, be it produce, curios or labor.

"All the pueblos of the province are in good financial condition and five are building new tribunals.

"As justice of the peace, I have had occasion to try only thirty-two cases and have been appealed to as arbitrator only eight times by Igorrotes, who were not satisfied with the findings of their native tribunals. Of course this does not represent the entire criminal calendar of the province, for each pueblo has its council which sits as a court over petty difficulties arising between individuals. From these councils the Igorrotes seldom appeal, accepting the decision of their own head-men as first and final."

A. U. Betts, governor of the Province of Albay, writes:

"The year opened with everything in a very peaceful and prosperous condition. There have been two regular sessions of the Court of First Instance held at the capital during the past year and it is gratifying to note the great confidence these people display in the administration of justice. The road between Legaspi and Ligao, which passes through the centre of the great hemp country, was practically completed during the early part of the year. The enormous traffic, however, passing over this highway made it necessary, in order to maintain it in passable condition, to eliminate the antiquated bull-cart. The provincial board, therefore, prohibited their passing over the road and made it obligatory to use carts with modern wheels movable on the axle and with a four-inch or greater tread.

"These restrictions crippled the transportation facilities for a short time, but suitable wheels were quickly imported, and the inconvenience at first experienced was readily compensated for, by not only the preservation of the highways, but also by the amount of cargo the carts were able to carry. To illustrate:

"It formerly required three days for a cart, drawn by three bulls, to make

a trip over the full length of the road, while with modern carts on the new highway, the trip can now be made in one day, using only two bulls and carrying 50 per cent more cargo.

"When these facts became evident, no further argument was necessary to induce the cart owners to purchase modern equipage. It has been estimated that the saving in the cost of transportation over this highway, in one year only, as contrasted with former conditions, amounts to \$720,000, local currency. This saving to the people of the province has been effected in one year through an expenditure, for the maintenance of this highway, of about \$67,889, local currency. There have been imported into the province during the past year about 5,000 cart wheels of modern construction.

"The question of transportation still remains one of the most important problems to deal with in the province. The greater portion of this year the average price for a bull-cart per day has been \$40, local currency, while the average cost of a carromata has been \$25. The great demand for transportation is for moving the hemp from the interior down to the seaports and taking rice and merchandise from the ports to the interior. There were shipped from the port of Legaspi this year about 344,270 piculs of hemp and 455,770 piculs of rice entered the same port.

"This great demand for transportation and the excessively high price charged has induced outside capital to bring into the province modern traction engines. These have an eighteen-inch tread while the cars used in their trams have an eight-inch tread, causing therefore but little damage to the highways. One of these engines has been known to transport at one trip 260 piculs of hemp, or an amount that would require about forty bull-carts to transport. The pressing demand for transportation has resulted in the establishment of stage lines, and the introduction of bicycles and automobiles, which are now running on the public highways. Four hundred of the former have been imported into the province during the year.

"The exportation of hemp from this province during the year has been in the neighborhood of 500,000 piculs for which the people were paid about \$12,500,000, local currency. The production of ylang-ylang for the year just closed was valued at about \$55,000, copra at \$300,000 and sinamay at \$3,250,000.

"The receipts of the provincial treasurer from all sources for the year amounted to \$359,095.48, local currency. Of this sum \$131,959.82 was returned to the municipalities, that being their portion of the general tax, and after deducting all sums for outstanding obligations and unfulfilled contracts there is a balance of \$45,755.71, local currency, in the treasury.

"It is gratifying to note the great progress that has been made in the educational department of the province during the past year. Numerous school buildings have been erected in all parts of the province, and some municipalities are deserving of special mention for the excellent buildings constructed. There are in the province one high school, 38 schools directed by American teachers in which English is taught, 6 parochial schools and about 700 private schools in which instruction is given in Spanish and Bicol.

"The best of feeling exists between the natives and the American resi-

dents of the province, and it is gratifying to note the readiness with which the people adopt new ideas and modern customs.

"This province opens a wonderful field for the introduction of American supplies and implements, and it is sincerely hoped that American manufacturers and merchants will take advantage of these new markets."

Sr. G. Gonzaga, governor of the Province of Cagayan, reports:

"The Province of Cagayan, situated in the extreme northern part of the Islands of Luzon, has continued in a peaceful and tranquil condition since the establishment thereon of civil government, which was accomplished without the least disturbance or occasion of disorder in September, 1901. . . . The most complete peace has reigned, clear and evident proof of the sincere and loyal adherence to the sovereignty of North America and of satisfaction with the present governmental system.

"Under this peace, the people of this province would most surely have enjoyed such prosperity as peace affords, had not unhappy events combined to prevent it, such as the mortality of carabaos, and other diseases of cattle and horses. This calamity was followed by unexpected overflows of the river which inundated lands planted in corn and tobacco, then came the smallpox epidemic, and in its turn the plague of locusts, and to cap it all, the cholera, which, while it has not wrought great havoc, has greatly unsettled the minds of the people.

"The dire calamities mentioned, together with the depression in tobacco, which is the principal product of this soil, place the inhabitants of the tobacco-raising pueblos of the province in a most deplorable condition.

"Through visits to all the municipalities the undersigned has become convinced of the complete tranquillity which exists, notwithstanding that there has not completely disappeared the hateful despotism which the higher classes observe toward the lower classes in nearly all the pueblos, due to the ignorance of the latter.

"To destroy this power, the education of the lower classes becomes necessary. . . . All the pueblos of the province should be given American teachers and there should be established institutions of higher learning, of agriculture, arts and trades in the provincial capital for the education of the youth of Cagayan.

"Agriculture has declined for the past two years. Numerous circumstances have combined to bring about this critical condition. The dearth of work animals, the plague of locusts and the continuous epidemic diseases which have appeared and terrorized the people to such an extent as to cause them to abandon their fields, and finally the lack of water at the plowing season.

"The depression in the tobacco market is due not only to the low price of the same in Manila, for which there is no explanation except that it is done by the intrigues of the great manufacturers of cigarettes in Manila, but it is also due to the excessive tariff duties upon the importation of this article which prevents American merchants from purchasing the same. In order to combat this monopoly, so highly injurious to the inhabitants of this

province, we suggest the remedy of lowering the tariff of import duty upon tobacco to 25 per cent instead of 75 per cent, as it is at present.

"The density of population in the two Ilocos provinces makes their territory insufficient for many who desire to acquire land and free themselves from the cruelty and unrestrained avarice of land owners. In the valley of the Cagayan, with its sparse population, there is everywhere to be found virgin soil which lacks labor only to cultivate it. In order to secure this needed change of population a wagon road should be built from Bangui, the nearest pueblo in Ilocos Norte, to Claveria, the first pueblo in the Province of Cagayan."

James Ross, governor of the province of Ambos Camarines, reports the following:

"In my last annual report I stated: 'Absolute peace prevails in all sections.' I am very glad to be able now to repeat that statement and to report the peaceful conditions that have existed ever since the end of the insurrection, unchanged. The people of this province evidently understand that the maintenance of peace and order is a condition precedent to progress and prosperity, and I desire to say that to the people of the province themselves belongs the credit for the very satisfactory conditions that exist within our borders. The work of the constabulary has consisted almost entirely in guarding the borders and patrolling the mountain regions, where the wild tribes were formerly considered more or less dangerous by the Christian inhabitants of neighboring barrios. Commercial houses are in the habit of sending large sums of money out to distant points by unarmed messengers, American prospectors and explorers have penetrated the most remote mountain regions in parties of two and three, or entirely alone, and none of these have been molested in the slightest degree.

"In the recently organized towns municipal affairs are being administered in a satisfactory manner, very few complaints against officials having been received during the year. The only charge sustained was one against Inocentes Aspe, president of Magarao, for having suppressed cholera reports from his town, and he was dismissed from office.

"The province suffered during the year from an epidemic of Asiatic cholera, there having been 1,371 cases and 974 deaths. Upon the appearance of the disease energetic measures were taken to prevent its spread. Dr. Shannon Richmond, U. S. V., was detailed to assist the provincial authorities, and to his able and energetic efforts is due the success with which the epidemic was combated. Aside from the cholera, general health conditions were better during the year than at any time during my three years' experience in the province.

"The migration of laborers from the impoverished rice land country to the rich hemp districts, mentioned in my last report, has continued during part of the year, and in this manner the demand for labor in the hemp industry has been in part supplied, resulting in a material increase in hemp production. During the year the province exported 251,961 piculs of hemp. The other products exported are rattan, ylang-ylang and copra. The growth of the hemp industry last year was not solely along the lines of production from existing fields, but there was quite a boom in opening up new lands in localities where

no effort had formerly been made to cultivate abaca. From all parts of the province we received information that almost every man fortunate enough to possess a tract of land large enough and suitable for the purpose was planting hemp. It will require from two to three years for these new fields to mature, but when that time comes Ambos Camarines may be looked to as a strong competitor for the first place as a hemp-producing province.

"The agricultural possibilities of this province are practically unlimited. It has a fertile soil that will grow almost anything, and with a population of the most peaceable and friendly people in the archipelago offers a most inviting field for the investment of American capital in agricultural enterprises, provided, of course, that some means can be found for supplying the necessary labor.

"The province contains large tracts of fine grazing lands, and in former times stock-raising was one of the principal industries. The past year has been productive of most excellent results in school work. There are now in the province, under the direct control of American teachers, twenty-eight schools with a teaching staff of twenty-seven American and thirty-five native teachers. The enrollment for the entire province is three thousand and seventy-nine, with an average daily attendance of two thousand one hundred and forty-two.

"There are about one hundred and thirty-five miles of road in the province, of which fifteen are fairly good and the remaining one hundred and twenty, a part of which has been lately repaired, still need further repairs at an estimated cost of about four hundred thousand dollars, local currency. Twenty-five more bridges are needed, of which at least twenty are an urgent necessity.

"The affairs of all departments are in good condition and complete harmony exists throughout the administration. The honesty, fidelity and efficiency of the Filipino officials, which I took occasion to comment upon last year, I desire to mention again at this time."

**Philippine Weather Bureau.**—Although the meteorological service of the Philippine Islands is probably the oldest established in the extreme East, no full and comprehensive report of its operations has been available for public reference until that of its director, Rev. Fr. José Algué, S. J., for 1901-2 was published in two parts, including a report of the secretary of the Weather Bureau on the establishment of the service, its development under the Spanish government and its reorganization under the present régime, and covering a period from 1865 to 1902. This report, in attractive form, has just been received by the Bureau of Insular Affairs, and bears evidence of careful preparation and compilation.

To the Jesuit order belongs the credit of having first recognized the importance of meteorological observations to the commercial and agricultural interests of the islanders and their neighbors. Under the enthusiastic direction of Fr. Federico Fauna, the justly famed Manila Observatory was installed in 1865 with the necessary instruments for its important work. The story of the increase of the facilities of the observatory and of its valuable instruments, added from time to time, is one to be read with interest, and



the results obtained stand as a monument to the tireless energy of the savants who have directed the institution.

The usefulness of its workings began to be felt and appreciated in 1879 when the observatory began a series of wonderfully correct prognostications on the probable trajectory of typhoons. These, then novel, predictions attracted considerable attention to the observatory and from that time it has enjoyed an enviable reputation in the scientific world. The warnings sent out have been of benefit not only to the people of the Philippines but have a recognized value to the inhabitants of adjacent countries similarly subject to the ravages of these terrific storm conditions. Their importance to shipping interests cannot be overestimated.

Upon the American occupation most cordial relations were at once established with those in charge of the observatory, and while, through lack of prompt communication with the secondary stations due to internal disturbances, the data for forecasts was not so complete, yet the bureau rendered efficient service and continued to display weather signals, which commendable and public spirited attitude met with prompt recognition from Admiral Dewey, then commanding the American naval forces in Asiatic waters.

The Philippine Commission, after conference with the authorities of the Weather Bureau at Washington and under date of May 22, 1901, published an act organizing the Philippine Weather Bureau. By this act the bureau is required to print and distribute daily reports of weather conditions together with its forecasts, and under it those formerly in charge have been continued in its direction, and generous appropriations have enabled them to increase their usefulness through the establishment and reorganization of stations and the purchase of necessary instruments therefor.

**Philippine Tobacco.**—Professor Clarence W. Dorsey, soil physicist, connected with the Philippine Bureau of Agriculture, has prepared a bulletin on the cultivation of tobacco, which has recently been received by the Insular Bureau, and contains many items of interest relative to tobacco growing in the Philippines, and also gives instructions to growers as to the best methods of cultivating, harvesting and curing the crop.

Philippine tobacco has long been held in high esteem in the Orient, and Manila cigars maintain the same rank in the eastern countries that Havana cigars occupy in Europe and America. To-day tobacco stands third among the exports from the Philippines.

Tobacco was introduced into the Philippines soon after the Spaniards took possession, seed having been brought from Mexico by missionaries. Little effort was made by the government to restrict or encourage the cultivation of tobacco until 1781 when it became a state monopoly. While the monopoly was in force, each family in the tobacco districts of Luzon was compelled to grow 4,000 plants and deliver the entire crop to the agents of the government. None of the crop was reserved for the use of the planter and a fine was imposed when the crop was short.

After harvest the leaves were selected and bought by government agents, and bundles of inferior leaves were rejected and burned. Native houses were

searched for concealed tobacco and fines and penalties imposed on those who failed to comply with the law.

The profits from the monopoly, finally abolished December 31, 1882, annually amounted to several million pesos.

Since that time the cultivation and manufacture of the crop has been in the hands of private individuals and companies. At the present time the greater part of the tobacco grown in the islands comes from Luzon. The products of Isabela and Cagayan provinces are the most highly esteemed, while considerable quantities are produced in Union and the Ilocos provinces, on the west coast of northern Luzon. Nueva Ecija formerly raised a fair grade of tobacco, but the cultivation has fallen off in late years. Tobacco is grown in small quantities in the Visayan and southern islands.

Philippine tobacco is nearly all utilized in the manufacture of cigars and cigarettes, and finds a ready sale in Spain (which consumes more than one-half of the total production), England, Hong Kong (where it is shipped to Asiatic ports), and British East India. During the year 1900 these countries bought more than seven-tenths of the entire crop. The agreeable aroma and flavor of the better grades of tobacco grown in the islands have won for it a high place among the fine cigar tobaccos of the world, and, for a long time, it ranked next to the celebrated Cuban tobacco. When we consider the desirable qualities of Philippine tobacco, with the imperfect cultivation, curing, and fermentation it receives, and the improvements and advances that have been made in other tobacco countries, it is clear that every care and attention should be given the crop to enable it to regain its former position, if not to make it superior to the finest tobacco now grown in the world.

The markets of the United States offer every inducement for the improvement and spread of the Philippine tobacco industry. This becomes all the more evident when we consider the vast sums of money annually expended by the United States for foreign tobacco. During the year ended June 30, 1900, the United States paid for Cuban tobacco \$7,615,991, and \$4,569,271 for Sumatra tobacco. During this same year the Philippines exported to the United States only a few hundreds of dollars worth of tobacco, or less than one-hundredth of one per cent of the tobacco importations of that country.

In the manufacture of high-grade cigars, certain essentials are necessary. The tobacco must burn smoothly and freely, with a pleasant taste, not rank and strong, nor too mild. When the taste is pleasant, not sharp and bitter, the aroma will invariably be good. The wrapper of the cigar, as distinguished from the filler, must be light in color, rich in grain, thin in texture, small in vein and stem, very elastic, and of good burning quality. It should stretch and cover well, have little aroma and appear well on the cigar. After such a suitable wrapper leaf is grown, it must be properly cured, assorted and classified. The manufacturer can never afford to pay a high price for a bale of tobacco, unless he can calculate just how many suitable leaves it will contain. This is one reason why Sumatra tobacco commands such a high value, for so carefully is the grading and assorting done that the manufacturer knows how many cigars each package of tobacco will wrap, and that the color will be uniform.

For cigar filler the leaves should be somewhat shorter, of medium body, have a rich brown color and burn smoothly and freely. The quality of the filler determines the character of the cigar; hence the filler must possess the desirable aroma that distinguishes a good cigar.

Philippine tobacco has some of the above properties and has earned its reputation, on account of its agreeable aroma, fine veins and notable elasticity. This applies only to the better quality of tobacco grown on the alluvial lands of the Cagayan River, in northern Luzon. The tobacco grown in the Visayan Islands is coarser, uneven in color, and of greater strength. From the provinces along the west coast of northern Luzon the tobacco is of heavy body, and that grown near the sea has but little combustibility. Its ragged, broken character also lowers its market value.

Professor Dorsey believes that the islands can and should produce cigar-filler tobacco that is fully equal to the finest product of the Vuelta Abajo district of Cuba, and a cigar wrapper equal to Sumatra tobacco. With careful attention to soil and climatic conditions, it is believed districts can be found that will raise tobacco similar in flavor and aroma to that grown in the best districts of Turkey.

**Filipino Labor**—The Bureau of Insular Affairs has given to the press a copy of a letter written by Mr. H. Krusi, vice-president of the Atlantic, Gulf and Pacific Company, which has the contract for the harbor improvements at Manila, and addressed to Governor Taft, in reply to his request for a report on Filipino labor. The letter is as follows:

"First. We believe that Filipino labor can successfully be used. We are employing about one thousand Filipinos, which is a practical demonstration that this statement is not a theory.

"Second. To employ successfully Filipino labor is, to the American employer of labor, a new business which has to be learned. If he cannot learn it, he cannot do business in the Philippine Islands.

"Third. In general the Filipinos have to be taught to work. This requires a considerable proportion of intelligence, high-grade American foremen and mechanics.

"Fourth. The way to keep the Filipino laborer permanently in one's employ is to arrange his surroundings so that he is better off and more contented there than anywhere else. This we have attained by means of providing homes for the Filipinos and their families; also amusements, including Sunday fiestas and schools where their children may be educated.

"Fifth. We are opposed to the introduction of the Chinese. The only argument that we can see in its favor is that it may somewhat expedite the development of the resources of the islands. This temporary advantage is, we believe, overbalanced and overwhelmed by the ultimate injury to both the Americans and natives in the islands.

"Sixth. We believe that the greatest need of the islands is the abolition of the Dingley tariff as far as it applies to the Philippines. We want the American market, not the Chinese laborer."